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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/428,813	10/28/1999	SAMI INKINEN	297-008970-U	5161

7590 04/26/2006
CLARENCE A GREEN CLARENCE A GREEN
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EXAMINER

KUMAR, PANKAJ

ART UNIT PAPER NUMBER

2611

DATE MAILED: 04/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/428,813

Applicant(s)

INKINEN ET AL

Examiner

Pankaj Kumar

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9 is/are allowed.
- 6) ☒ Claim(s) 1-8 and 10-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-8, 10-17 have been considered but are moot in view of the new ground(s) of rejection.

Response to Amendment

Claim Objections

2. Claim 12 is objected to because of the following informalities: "the microcontroller" should be 'a microcontroller'. Appropriate correction is required.
3. Claims 1-8, 10-12, 14, 16, 17 are objected to since it is not clear how the additional limitation (that the electronic device communicates with the data communication device as an expansion memory) further limits the claim since the claim already recites this (with the data communication device operates as an ordinary expansion memory from the view point of the electronic device).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. Claims 1-5, 7, 8, 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bass USPN 5,896,574 in view of Knighton USPN 6,032,866. Here is how the references teach the claims:

6. As per claim 1: mounting a data communication device (Bass fig. 3: 305, 307; fig. 2: 205, 207) having means for short-range wireless data communication (Bass col. 4 lines 17-19: radio module 209 with antenna 213; lines 32-33: radio module 209 contained in housing container 311; line 37: PCMCIA card and radio module connected to housing; line 13: wireless modem comprises PCMCIA card adapter 205) (inherent for Bass to be short range since Bass teaches low transmission power (Bass col. 1 lines 49, 56-59: transmit power 600mW, 1W up to 3W; since transmit power is small, it will be short range) and thus suggests that the range will be short (Bass col. 1 lines 44-46: "The ability of the radio to transmit at certain ranges is limited by the transmit power it can radiate via the antenna.)) in a general purpose expansion memory (this is not taught in Bass but it would be obvious as explained below) location of the electronic device (Bass fig. 3: 203A, 203B in computer 201); activating a short-range wireless data communication link between the wireless device (wireless device is inherent in Bass since when there is one device with communicates wirelessly, there has to be a second device which communicates wirelessly with the first device otherwise the first device would not be able to communicate wirelessly as it would not have anyone to communicate with. Bass does teach the first device which is applicant's claimed data communication device (Bass fig. 3: the modem 305,307 is the data communication device which will be attached to the computer) and Bass also teaches wireless communications (Bass col. 1 lines 13-15: "Wireless modems enable mobile computer devices to communicate with other computer devices ...")) and the data

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communication device (Bass col. 1 lines 13-15: "Wireless modems enable mobile computer devices to communicate with other computer devices ..."; fig. 3: the modem 305,307 is the data communication device which will be attached to the computer); and transmitting data (Bass col. 1 lines 24-26, fig. 5: transmitter 503) between the data communication device and the wireless device (Bass col. 1 lines 13-15: "Wireless modems enable mobile computer devices to communicate with other computer devices ...") so that the data communication device operates as an ordinary expansion memory (Bass does not teach ordinary expansion memory but it would be obvious as explained below) from the view point of the electronic device (Bass fig. 3: 201 is the electronic device; Bass figs. 3, 4: attaching the wireless card with the memory into the computer is from the view point of the computer more memory attached to the computer through the wireless card; col. 5 lines 34-35: "The adapter card is wired such that it looks to the PCMCIA bus as a memory card.") and the electronic device communicates with the data communication device as an expansion memory (Bass fig. 3: 201 is the electronic device; Bass figs. 3, 4: attaching the wireless card with the memory into the computer is from the view point of the computer more memory attached to the computer through the wireless card; col. 5 lines 34-35: "The adapter card is wired such that it looks to the PCMCIA bus as a memory card.").

7. What Bass does not teach is general purpose or ordinary expansion memory. Knighton with Bass teach general purpose or ordinary memory as memory can be used for different ordinary applications such as Knighton using memory for ordinary purposes of a microprocessor (Knighton fig. 8 130, 144) and Bass using memory at least for the ordinary purposes of the modem (Bass fig. 4). The word memory used with computers is an ordinary memory that is used to store general purpose data. A computer already has memory and thus the Bass computer has

memory and any additional memory attached to the computer, for example attaching memory at the computer's PCMCIA slot, is an expansion of the computer memory. What Knighton also teaches is that the PCMCIA slot is an ordinary general purpose (Knighton 6032866: col. 6 lines 41-46: PCMCIA slot is ordinary general purpose as it can have a PCMCIA card which can be ordinary things like memory, camera, optical reader). Thus, it would have been obvious, to one of ordinary skill in the art, at time the invention was made, to arrive at the general purpose or ordinary expansion memory as indicated by the instant claims, because the combined teaching of Bass with Knighton suggest general purpose or ordinary expansion memory as indicated by the instant claims. Furthermore, one of ordinary skill in the art, would have been motivated to combine the teachings of Bass with Knighton because Bass suggests modem memory (Bass fig. 4) and two PCMCIA slots or locations with different functionalities (Bass col. 4 lines 12-16) (something broad) in general and Knighton suggests the beneficial use of the functionalities being ordinary general purpose (by using the memory for a different application such as memory for the modem in Bass fig. 4 and memory for a non-modem microprocessor as in Knighton's fig. 8: 144, col. 6 lines 41-46 and also by other uses such as camera and optical reader) expansion memory (by the Knighton or Bass memory being an expansion of the memory already in the computer of Bass and also if Bass's modem did not have memory but needed to use memory in order to operate, Bass would have to use the computer memory for data it currently stores in its modem memory and thus for also this reason, the modem memory is an expansion of the computer memory) in the analogous art of PCMCIA cards.

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8. As per claim 2: a method according to claim 1, wherein in order to enable the data transmission from the electronic device to the wireless device the following method steps are performed after the installation of the data communication device and before the activation of the data communication link: inputting data to the electronic device (Bass fig. 5: receiver); and processing the data in the data communication device installed in an expansion memory location (Bass fig. 4 is a card with memory which is put into or installed into the expansion memory location fig. 3: 203B or 203A before the activation or processing since Bass needs the processor in card of fig. 4 which has a DSP – digital signal processor which would activate appropriately after installation).

9. As per claim 3, a method according to claim 2, wherein the data processing in the data communication device is made by instructions from the electronic device (Bass: the computer fig. 3 connects to fig. 4 PCMCIA connector which provides instructions via the arrows to the DSP via other components).

10. As per claim 4, a method according to claim 1, wherein the data communication between the data communication device and the wireless device is made over a low power radio frequency (LPRF) link (Bass col. 1 lines 27, 44: RF; lines 49, 56-59: 600mW, 1W up to 3W is low power).

11. As per claim 5, a method according to claim 1, wherein the data communication between the data communication device and the wireless device is made on the basis of instructions given

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by the wireless device (Bass col. 1 lines 13-15: "Wireless modems enable mobile computer devices to communicate with other computer devices ..."; the communication between one computer device which is the claimed data communication device and another computer device which is the claimed electronic device with the wireless modem card and memory shown in Bass fig. 4; communication is based on signals r instructions given by Bass via various components in figs. 3, 4, 5).

12. As per claim 7: A method for wireless data communication between a wireless device, having means for short-range data communication, and an electronic device, the method comprising: mounting a data communication device (Bass fig. 3: 305, 307; fig. 2: 205, 207) having means for short-range wireless data communication (Bass col. 4 lines 17-19: radio module 209 with antenna 213; lines 32-33: radio module 209 contained in housing container 311; line 37: PCMCIA card and radio module connected to housing; line 13: wireless modem comprises PCMCIA card adapter 205) (inherent for Bass to be short range since Bass teaches low transmission power (Bass col. 1 lines 49, 56-59: transmit power 600mW, 1W up to 3W; since transmit power is small, it will be short range) and thus suggests that the range will be short (Bass col. 1 lines 44-46: "The ability of the radio to transmit at certain ranges is limited by the transmit power it can radiate via the antenna.)) in a general purpose expansion memory (this is not taught in Bass but it would be obvious as explained below) location of the electronic device (Bass fig. 3: 203A, 203B in computer 201); activating a short-range wireless data communication link between the wireless device (wireless device is inherent in Bass since when there is one device with communicates wirelessly, there has to be a second device which

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communicates wirelessly with the first device otherwise the first device would not be able to communicate wirelessly as it would not have anyone to communicate with. Bass does teach the first device which is applicant's claimed data communication device (Bass fig. 3: the modem 305,307 is the data communication device which will be attached to the computer) and Bass also teaches wireless communications (Bass col. 1 lines 13-15: "Wireless modems enable mobile computer devices to communicate with other computer devices ...")) and the data communication device (Bass col. 1 lines 13-15: "Wireless modems enable mobile computer devices to communicate with other computer devices ..."; fig. 3: the modem 305,307 is the data communication device which will be attached to the computer); and transmitting data (Bass col. 1 lines 24-26, fig. 5: transmitter 503) between the data communication device and the wireless device (Bass col. 1 lines 13-15: "Wireless modems enable mobile computer devices to communicate with other computer devices ...") so that the data communication device operates as an ordinary expansion memory (Bass does not teach ordinary expansion memory but it would be obvious as explained below) from the view point of the electronic device (Bass fig. 3: 201 is the electronic device; Bass figs. 3, 4: attaching the wireless card with the memory into the computer is from the view point of the computer more memory attached to the computer through the wireless card; col. 5 lines 34-35: "The adapter card is wired such that it looks to the PCMCIA bus as a memory card.") wherein in order to enable the data transmission from the electronic device to the wireless device the following method steps are performed after the installation of the data communication device (Bass fig. 3: after 311 is attached to 305 and 307 which are attached to 203B and 203A) and before the activation of the data communication link (Bass: before the communication occurs between devices): inputting data to the electronic device (Bass

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fig. 4: data is input into the modem from the computer through the PCMCIA connector); and processing the data in the data communication device (Bass fig. 4: DSP is processing data) installed in an expansion memory location (Bass fig. 3: 203A, 203B in computer 201) in that the input data is a picture reflected as light through the objective of a camera (not in Bass but would be obvious as explained below) and the electronic device communicates with the data communication device as an expansion memory (Bass fig. 3: 201 is the electronic device; Bass figs. 3, 4: attaching the wireless card with the memory into the computer is from the view point of the computer more memory attached to the computer through the wireless card; col. 5 lines 34-35: "The adapter card is wired such that it looks to the PCMCIA bus as a memory card.").

~~13.~~ What Bass does not teach is general purpose or ordinary expansion memory. Knighton with Bass teach general purpose or ordinary memory as memory can be used for different ordinary applications such as Knighton using memory for ordinary purposes of a microprocessor (Knighton fig. 8 130, 144) and Bass using memory at least for the ordinary purposes of the modem (Bass fig. 4). The word memory used with computers is an ordinary memory that is used to store general purpose data. A computer already has memory and thus the Bass computer has memory and any additional memory attached to the computer, for example attaching memory at the computer's PCMCIA slot, is an expansion of the computer memory. What Knighton also teaches is that the PCMCIA slot is an ordinary general purpose (Knighton 6032866: col. 6 lines 41-46: PCMCIA slot is ordinary general purpose as it can have a PCMCIA card which can be ordinary things like memory, camera, optical reader). Thus, it would have been obvious, to one of ordinary skill in the art, at time the invention was made, to arrive at the general purpose or ordinary expansion memory as indicated by the instant claims, because the combined teaching of

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Bass with Knighton suggest general purpose or ordinary expansion memory as indicated by the instant claims. Furthermore, one of ordinary skill in the art, would have been motivated to combine the teachings of Bass with Knighton because Bass suggests modem memory (Bass fig. 4) and two PCMCIA slots or locations with different functionalities (Bass col. 4 lines 12-16) (something broad) in general and Knighton suggests the beneficial use of the functionalities being ordinary general purpose (by using the memory for a different application such as memory for the modem in Bass fig. 4 and memory for a non-modem microprocessor as in Knighton's fig. 8: 144, col. 6 lines 41-46 and also by other uses such as camera and optical reader) expansion memory (by the Knighton or Bass memory being an expansion of the memory already in the computer of Bass and also if Bass's modem did not have memory but needed to use memory in order to operate, Bass would have to use the computer memory for data it currently stores in its modem memory and thus for also this reason, the modem memory is an expansion of the computer memory) in the analogous art of PCMCIA cards.

14. Bass does not teach input data is a picture reflected as light through the objective of a camera. What Knighton teaches that the PCMCIA slot is used for camera that inherently inputs a picture reflected as light through the objective of the camera (Knighton 6032866: col. 6 lines 41-46: PCMCIA slot a camera). Thus, it would have been obvious, to one of ordinary skill in the art, at time the invention was made, to arrive at the input data is a picture reflected as light through the objective of a camera as recited by the instant claims, because the combined teaching of Bass with Knighton suggest general purpose as recited by the instant claims. Furthermore, one of ordinary skill in the art, would have been motivated to combine the teachings of Bass with Knighton because Bass suggests input data (something broad) in general and Knighton suggests

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the beneficial use of having a camera, which inherently inputs a picture reflected as light through the objective of the camera, such as for reading human viewable images (Knighton col. 2 lines 13-14) in the analogous art of PCMCIA cards.

15. As per claim 8: A data communications device for wireless data communication between a wireless device, which has means for a short-range data link, and an electronic device, the data communication device comprising: a controller connectable (Bass fig. 2, 3: 209 is connectable) to a general purpose interface of an expansion memory location (general purpose interface of an expansion memory location is not in Bass but would be obvious as explained below) of the electronic device (Bass fig. 3: 201), for controlling the operation of the data communication device (Bass: the data received by the baseband processor 205, 305 has to first go through the radio module 209 and hence the radio module controls what the baseband processor receives), a short-range (inherent for Bass to be short range since Bass teaches low transmission power (Bass col. 1 lines 49, 56-59: transmit power 600mW, 1W up to 3W; since transmit power is small, it will be short range) and thus suggests that the range will be short (Bass col. 1 lines 44-46: "The ability of the radio to transmit at certain ranges is limited by the transmit power it can radiate via the antenna.")) radio frequency (Bass col. 1 lines 27, 44: RF) wireless data communication unit (wireless data communication unit is inherent in Bass since when there is one device with communicates wirelessly, there has to be a second device which communicates wirelessly with the first device otherwise the first device would not be able to communicate wirelessly as it would not have anyone to communicate with. Bass does teach the first device which is applicant's claimed data communication device (Bass fig. 3: the modem 305,307 is the data

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communication device which will be attached to the computer) and Bass also teaches wireless communications (Bass col. 1 lines 13-15: "Wireless modems enable mobile computer devices to communicate with other computer devices ...")) and a short range radio frequency antenna (Bass fig. 5: 515) for data communication; and a memory for storing the communicated data (Bass fig. 4: memory), wherein said communication device for wireless data communication (Bass fig. 3: 305, 307, fig. 2: 205, 207: the modem 305, 307, 205, 207 is the data communication device which will be attached to the computer) is arranged to mount into a general purpose expansion memory (this is not taught in Bass but it would be obvious as explained below) location of the electronic device (Bass fig. 3: 203A, 203B in computer 201), said communication device being arranged to operate as an ordinary expansion memory (Bass does not teach ordinary expansion memory but it would be obvious as explained below) from the view point of the electronic device (Bass fig. 3: 201 is the electronic device; Bass figs. 3, 4: attaching the wireless card with the memory into the computer is from the view point of the computer more memory attached to the computer through the wireless card; col. 5 lines 34-35: "The adapter card is wired such that it looks to the PCMCIA bus as a memory card.") and the electronic device communicates with the data communication device as an expansion memory (Bass fig. 3: 201 is the electronic device; Bass figs. 3, 4: attaching the wireless card with the memory into the computer is from the view point of the computer more memory attached to the computer through the wireless card; col. 5 lines 34-35: "The adapter card is wired such that it looks to the PCMCIA bus as a memory card.").

16. What Bass does not teach is that the PCMCIA slot is a general purpose interface. What Knighton teaches that the PCMCIA slot is a general purpose interface (Knighton 6032866: col. 6

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lines 41-46: PCMCIA slot is a general purpose interface as it can have a PCMCIA card which can be such things as memory, camera, optical reader). Thus, it would have been obvious, to one of ordinary skill in the art, at time the invention was made, to arrive at the general purpose interface as recited by the instant claims, because the combined teaching of Bass with Knighton suggest general purpose interface as recited by the instant claims. Furthermore, one of ordinary skill in the art, would have been motivated to combine the teachings of Bass with Knighton because Bass suggests two PCMCIA slots or locations with different functionalities (Bass col. 4 lines 12-16) (something broad) in general and Knighton suggests the beneficial use of having the PCMCIA slots be general purpose interface by being able to have things with additional functionalities such as to have more memory, or to have a camera, or to have an optical reader in the analogous art of PCMCIA cards.

17. What Bass does not teach is general purpose or ordinary expansion memory. Knighton with Bass teach general purpose or ordinary memory as memory can be used for different ordinary applications such as Knighton using memory for ordinary purposes of a microprocessor (Knighton fig. 8 130, 144) and Bass using memory at least for the ordinary purposes of the modem (Bass fig. 4). The word memory used with computers is an ordinary memory that is used to store general purpose data. A computer already has memory and thus the Bass computer has memory and any additional memory attached to the computer, for example attaching memory at the computer's PCMCIA slot, is an expansion of the computer memory. What Knighton also teaches is that the PCMCIA slot is an ordinary general purpose (Knighton 6032866: col. 6 lines 41-46: PCMCIA slot is ordinary general purpose as it can have a PCMCIA card which can be ordinary things like memory, camera, optical reader). Thus, it would have been obvious, to one

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of ordinary skill in the art, at time the invention was made, to arrive at the general purpose or ordinary expansion memory as indicated by the instant claims, because the combined teaching of Bass with Knighton suggest general purpose or ordinary expansion memory as indicated by the instant claims. Furthermore, one of ordinary skill in the art, would have been motivated to combine the teachings of Bass with Knighton because Bass suggests modem memory (Bass fig. 4) and two PCMCIA slots or locations with different functionalities (Bass col. 4 lines 12-16) (something broad) in general and Knighton suggests the beneficial use of the functionalities being ordinary general purpose (by using the memory for a different application such as memory for the modem in Bass fig. 4 and memory for a non-modem microprocessor as in Knighton's fig. 8: 144, col. 6 lines 41-46 and also by other uses such as camera and optical reader) expansion memory (by the Knighton or Bass memory being an expansion of the memory already in the computer of Bass and also if Bass's modem did not have memory but needed to use memory in order to operate, Bass would have to use the computer memory for data it currently stores in its modem memory and thus for also this reason, the modem memory is an expansion of the computer memory) in the analogous art of PCMCIA cards.

~~18.~~ What Bass does not teach is general purpose interface of an expansion memory location. Bass in view of Knighton suggests interfacing general purpose devices (Bass fig. 4: modem with memory; Knighton fig. 8: 144, col. 6 lines 41-46: memory, camera and optical reader) of which at least some of which provide an expansion of memory as discussed above. The existence of expansion memory inherently means it has a location. Thus, it would have been obvious, to one of ordinary skill in the art, at time the invention was made, to modify the prior art teaching of Bass in view of Knighton with general purpose interface of an expansion memory location as

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recited by the instant claims, because Bass in view of Knighton suggests interfacing general purpose devices (Bass fig. 4: modem with memory; Knighton fig. 8: 144, col. 6 lines 41-46: memory, camera and optical reader) of which at least some of which provide an expansion of memory, as discussed above, in the analogous art of memory.

19. As per claim 10: A data communication device according to claim 8, wherein the short-range data communication unit is an LPRF unit (Bass col. 1 lines 27, 44: RF; lines 49, 56-59: 600mW, 1W up to 3W is low power).

20. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bass USPN 5,896,574 in view of Nakajima USPN 6,085,225 and Knighton USPN 6,032,866. Here is how the references teach the claim:

21. As per claim 6: A method for wireless data communication between a wireless device, having means for short-range data communication, and an electronic device, the method comprising: mounting a data communication device (Bass fig. 3: 305, 307; fig. 2: 205, 207) having means for short-range wireless data communication (Bass col. 4 lines 17-19: radio module 209 with antenna 213; lines 32-33: radio module 209 contained in housing container 311; line 37: PCMCIA card and radio module connected to housing; line 13: wireless modem comprises PCMCIA card adapter 205) (inherent for Bass to be short range since Bass teaches low transmission power (Bass col. 1 lines 49, 56-59: transmit power 600mW, 1W up to 3W; since transmit power is small, it will be short range) and thus suggests that the range will be short (Bass col. 1 lines 44-46: "The ability of the radio to transmit at certain ranges is limited by the

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transmit power it can radiate via the antenna.”)) in a general purpose expansion memory (this is not taught in Bass but it would be obvious as explained below) location of the electronic device (Bass fig. 3: 203A, 203B in computer 201); activating a short-range wireless data communication link between the wireless device (wireless device is inherent in Bass since when there is one device with communicates wirelessly, there has to be a second device which communicates wirelessly with the first device otherwise the first device would not be able to communicate wirelessly as it would not have anyone to communicate with. Bass does teach the first device which is applicant’s claimed data communication device (Bass fig. 3: the modem 305,307 is the data communication device which will be attached to the computer) and Bass also teaches wireless communications (Bass col. 1 lines 13-15: “Wireless modems enable mobile computer devices to communicate with other computer devices ...”)) and the data communication device (Bass col. 1 lines 13-15: “Wireless modems enable mobile computer devices to communicate with other computer devices ...”; fig. 3: the modem 305,307 is the data communication device which will be attached to the computer); and transmitting data (Bass col. 1 lines 24-26) between the data communication device and the wireless device (Bass col. 1 lines 13-15: “Wireless modems enable mobile computer devices to communicate with other computer devices ...”); and transmitting data (Bass col. 1 lines 24-26, fig. 5: transmitter 503) between the data communication device and the wireless device (Bass col. 1 lines 13-15: “Wireless modems enable mobile computer devices to communicate with other computer devices ...”), wherein the data communication between the data communication device and the wireless device is made automatically on the basis of the logic of the data communication device so that it is activated by the storage of data (not in Bass but would be obvious as explained below) so that the data

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communication device operates as an ordinary expansion memory (Bass does not teach ordinary expansion memory but it would be obvious as explained below) from the view point of the electronic device (Bass fig. 3: 201 is the electronic device; Bass figs. 3, 4: attaching the wireless card with the memory into the computer is from the view point of the computer more memory attached to the computer through the wireless card; col. 5 lines 34-35: "The adapter card is wired such that it looks to the PCMCIA bus as a memory card.") and the electronic device communicates with the data communication device as an expansion memory (Bass fig. 3: 201 is the electronic device; Bass figs. 3, 4: attaching the wireless card with the memory into the computer is from the view point of the computer more memory attached to the computer through the wireless card; col. 5 lines 34-35: "The adapter card is wired such that it looks to the PCMCIA bus as a memory card.").

22. Bass does not teach the communication is made automatically on the basis of the logic of the data communication device so that it is activated by the storage of data. Nakajima 6085225 teaches the communication is made automatically on the basis of the logic of the data communication device so that it is activated by the storage of data (Nakajima col. 10 lines 41-46: "When supply information or newly updated supply information is received by information input/output unit 20, information retrieval manager 21 updates the content of transmission object information storage unit 22a and initiates the transmission process for the received supply information."). Thus, it would have been obvious, to one of ordinary skill in the art, at time the invention was made, to arrive at the communication being made automatically on the basis of the logic of the data communication device so that it is activated by the storage of data as indicated by the instant claims, because the combined teaching of Bass with Nakajima suggest

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communication being made automatically on the basis of the logic of the data communication device so that it is activated by the storage of data as indicated by the instant claims.

Furthermore, one of ordinary skill in the art, would have been motivated to combine the teachings of Bass with Nakajima because Bass suggests communication by transmission (something broad) in general and Nakajima suggests the beneficial use of communication when storage of data occurs such as saving energy and bandwidth by not transmitting noise or old data which is not needed in the analogous art of data transmission.

~~23.~~ What Bass does not teach is general purpose or ordinary expansion memory. Knighton with Bass teach general purpose or ordinary memory as memory can be used for different ordinary applications such as Knighton using memory for ordinary purposes of a microprocessor (Knighton fig. 8 130, 144) and Bass using memory at least for the ordinary purposes of the modem (Bass fig. 4). The word memory used with computers is an ordinary memory that is used to store general purpose data. A computer already has memory and thus the Bass computer has memory and any additional memory attached to the computer, for example attaching memory at the computer's PCMCIA slot, is an expansion of the computer memory. What Knighton also teaches is that the PCMCIA slot is an ordinary general purpose (Knighton 6032866: col. 6 lines 41-46: PCMCIA slot is ordinary general purpose as it can have a PCMCIA card which can be ordinary things like memory, camera, optical reader). Thus, it would have been obvious, to one of ordinary skill in the art, at time the invention was made, to arrive at the general purpose or ordinary expansion memory as indicated by the instant claims, because the combined teaching of Bass with Knighton suggest general purpose or ordinary expansion memory as indicated by the instant claims. Furthermore, one of ordinary skill in the art, would have been motivated to

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combine the teachings of Bass with Knighton because Bass suggests modem memory (Bass fig. 4) and two PCMCIA slots or locations with different functionalities (Bass col. 4 lines 12-16) (something broad) in general and Knighton suggests the beneficial use of the functionalities being ordinary general purpose (by using the memory for a different application such as memory for the modem in Bass fig. 4 and memory for a non-modem microprocessor as in Knighton's fig. 8: 144, col. 6 lines 41-46 and also by other uses such as camera and optical reader) expansion memory (by the Knighton or Bass memory being an expansion of the memory already in the computer of Bass and also if Bass's modem did not have memory but needed to use memory in order to operate, Bass would have to use the computer memory for data it currently stores in its modem memory and thus for also this reason, the modem memory is an expansion of the computer memory) in the analogous art of PCMCIA cards.

24. Claims 11-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bass USPN 5,896,574 in view of Knighton USPN 6,032,866 and Okaue USPN 6,170,743. Here is how the references teach the claims:

25. As per claim 11: A data communications device for wireless data communication between a wireless device, which has means for a short-range data link, and an electronic device, the data communication device comprising: a controller connectable (Bass fig. 2, 3: 209 is connectable; 209 is the rf module that controls with the baseband processor receives) to a general purpose interface of an expansion memory location (general purpose interface of an expansion memory location is not in Bass but would be obvious as explained below) of the electronic device (Bass fig. 3: 201), for controlling the operation of the data communication device (Bass:

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the data received by the baseband processor 205, 305 has to first go through the radio module 209 and hence the radio module controls what the baseband processor receives), a short-range (inherent for Bass to be short range since Bass teaches low transmission power (Bass col. 1 lines 49, 56-59: transmit power 600mW, 1 W up to 3 W; since transmit power is small, it will be short range) and thus suggests that the range will be short (Bass col. 1 lines 44-46: "The ability of the radio to transmit at certain ranges is limited by the transmit power it can radiate via the antenna.")) LPRF (Bass col. 1 lines 27, 44: RF; lines 49, 56-59: 600mW, 1 W up to 3 W is low power) wireless data communication unit (wireless data communication unit is inherent in Bass since when there is one device with communicates wirelessly, there has to be a second device which communicates wirelessly with the first device otherwise the first device would not be able to communicate wirelessly as it would not have anyone to communicate with. Bass does teach the first device which is applicant's claimed data communication device (Bass fig. 3: the modem 305,307 is the data communication device which will be attached to the computer) and Bass also teaches wireless communications (Bass col. 1 lines 13-15: "Wireless modems enable mobile computer devices to communicate with other computer devices ...")) and a short range radio frequency antenna (Bass fig. 5: 515) for data communication; a memory for storing the communicated data (Bass fig. 4: memory); means for supplying a busy signal to the electronic device when the memory is processed by the radio link, and a busy signal to the LPRF unit when the memory is processed by the electronic device (not in Bass but would be obvious as explained below), wherein said communication device for wireless data communication (Bass fig. 3: 305, 307, fig. 2: 205, 207: the modem 305, 307, 205, 207 is the data communication device which will be attached to the computer) is arranged to mount into a general purpose expansion memory

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location (Bass fig. 3: locations 203B, 203A) of the electronic device (Bass fig. 3: 201), said communication device being arranged to operate as an ordinary expansion memory (Bass does not teach ordinary expansion memory but it would be obvious as explained below) from the view point of the electronic device (Bass fig. 3: 201 is the electronic device; Bass figs. 3, 4: attaching the wireless card with the memory into the computer is from the view point of the computer more memory attached to the computer through the wireless card; col. 5 lines 34-35: "The adapter card is wired such that it looks to the PCMCIA bus as a memory card.") and wherein the electronic device communicates with the data communication device as an expansion memory (Bass fig. 3: 201 is the electronic device; Bass figs. 3, 4: attaching the wireless card with the memory into the computer is from the view point of the computer more memory attached to the computer through the wireless card; col. 5 lines 34-35: "The adapter card is wired such that it looks to the PCMCIA bus as a memory card.").

26. What Bass does not teach is that the PCMCIA slot is a general purpose interface. What Knighton teaches that the PCMCIA slot is a general purpose interface (Knighton 6032866: col. 6 lines 41-46: PCMCIA slot is a general purpose interface as it can have a PCMCIA card which can be such things as memory, camera, optical reader). Thus, it would have been obvious, to one of ordinary skill in the art, at time the invention was made, to arrive at the general purpose interface as recited by the instant claims, because the combined teaching of Bass with Knighton suggest general purpose interface as recited by the instant claims. Furthermore, one of ordinary skill in the art, would have been motivated to combine the teachings of Bass with Knighton because Bass suggests two PCMCIA slots with different functionalities such as where one has the baseband portion of the modem and the other has the battery for the modem (Bass col. 4 lines

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12-16) (something broad) in general and Knighton suggests the beneficial use of having the PCMCIA slots be general purpose interface by being able to have things with additional functionalities such as to have more memory, or to have a camera, or to have an optical reader in the analogous art of PCMCIA cards.

27. What Bass does not teach is general purpose or ordinary expansion memory. Knighton with Bass teach general purpose or ordinary memory as memory can be used for different ordinary applications such as Knighton using memory for ordinary purposes of a microprocessor (Knighton fig. 8 130, 144) and Bass using memory at least for the ordinary purposes of the modem (Bass fig. 4). The word memory used with computers is an ordinary memory that is used to store general purpose data. A computer already has memory and thus the Bass computer has memory and any additional memory attached to the computer, for example attaching memory at the computer's PCMCIA slot, is an expansion of the computer memory. What Knighton also teaches is that the PCMCIA slot is an ordinary general purpose (Knighton 6032866: col. 6 lines 41-46: PCMCIA slot is ordinary general purpose as it can have a PCMCIA card which can be ordinary things like memory, camera, optical reader). Thus, it would have been obvious, to one of ordinary skill in the art, at time the invention was made, to arrive at the general purpose or ordinary expansion memory as indicated by the instant claims, because the combined teaching of Bass with Knighton suggest general purpose or ordinary expansion memory as indicated by the instant claims. Furthermore, one of ordinary skill in the art, would have been motivated to combine the teachings of Bass with Knighton because Bass suggests modem memory (Bass fig. 4) and two PCMCIA slots or locations with different functionalities (Bass col. 4 lines 12-16) (something broad) in general and Knighton suggests the beneficial use of the functionalities

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being ordinary general purpose (by using the memory for a different application such as memory for the modem in Bass fig. 4 and memory for a non-modem microprocessor as in Knighton's fig. 8: 144, col. 6 lines 41-46 and also by other uses such as camera and optical reader) expansion memory (by the Knighton or Bass memory being an expansion of the memory already in the computer of Bass and also if Bass's modem did not have memory but needed to use memory in order to operate, Bass would have to use the computer memory for data it currently stores in its modem memory and thus for also this reason, the modem memory is an expansion of the computer memory) in the analogous art of PCMCIA cards.

28. What Bass does not teach is general purpose interface of an expansion memory location. Bass in view of Knighton suggests interfacing general purpose devices (Bass fig. 4: modem with memory; Knighton fig. 8: 144, col. 6 lines 41-46: memory, camera and optical reader) of which at least some of which provide an expansion of memory as discussed above. The existence of expansion memory inherently means it has a location. Thus, it would have been obvious, to one of ordinary skill in the art, at time the invention was made, to modify the prior art teaching of Bass in view of Knighton with general purpose interface of an expansion memory location as recited by the instant claims, because Bass in view of Knighton suggests interfacing general purpose devices (Bass fig. 4: modem with memory; Knighton fig. 8: 144, col. 6 lines 41-46: memory, camera and optical reader) of which at least some of which provide an expansion of memory, as discussed above, in the analogous art of memory.

~~29.~~ What Bass does not teach is means for supplying a busy signal to the electronic device when the memory is processed by the radio link, and a busy signal to the LPRF unit when the memory is processed by the electronic device. What Okaue teaches is means for supplying a

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busy signal to the electronic device (Okaue fig. 5: busy/ready signal to host) when the memory is processed (Okaue fig. 5: memory card writing data in S13) by the radio link, and a busy signal to the LPRF unit when the memory is processed by the electronic device (Okaue fig. 5: S12 busy state in memory card when register is being transmitted). Thus, it would have been obvious, to one of ordinary skill in the art, at time the invention was made, to arrive at the supplying a busy signal to the electronic device when the memory is processed by the radio link, and a busy signal to the LPRF unit when the memory is processed by the electronic device as recited by the instant claims, because the combined teaching of Bass with Okaue suggest supplying a busy signal to the electronic device when the memory is processed by the radio link, and a busy signal to the LPRF unit when the memory is processed by the electronic device as recited by the instant claims. Furthermore, one of ordinary skill in the art, would have been motivated to combine the teachings of Bass with Okaue because Bass suggests transmission (something broad) in general and Okaue suggests the beneficial use of indicating with busy signals to prevent memory change during transmission such as preventing erroneous erasure and having write protection in the analogous art of memory processing.

30. As per claim 12: A data communications device for wireless data communication between a wireless device, which has means for a short-range data link, and an electronic device, the data communication device comprising: a controller connectable (Bass fig. 2, 3: 209 is connectable; 209 is the rf module that controls with the baseband processor receives) to a general purpose interface of an expansion memory location (general purpose interface of an expansion memory location is not in Bass but would be obvious as explained below) of the electronic

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device (Bass fig. 3: 201), for controlling the operation of the data communication device (Bass: the data received by the baseband processor 205, 305 has to first go through the radio module 209 and hence the radio module controls what the baseband processor receives), a short-range (inherent for Bass to be short range since Bass teaches low transmission power (Bass col. 1 lines 49, 56-59: transmit power 600mW, 1W up to 3W; since transmit power is small, it will be short range) and thus suggests that the range will be short (Bass col. 1 lines 44-46: "The ability of the radio to transmit at certain ranges is limited by the transmit power it can radiate via the antenna.")) LPRF (Bass col. 1 lines 27, 44: RF; lines 49, 56-59: 600mW, 1W up to 3W is low power) wireless data communication unit (wireless data communication unit is inherent in Bass since when there is one device with communicates wirelessly, there has to be a second device which communicates wirelessly with the first device otherwise the first device would not be able to communicate wirelessly as it would not have anyone to communicate with. Bass does teach the first device which is applicant's claimed data communication device (Bass fig. 3: the modem 305,307 is the data communication device which will be attached to the computer) and Bass also teaches wireless communications (Bass col. 1 lines 13-15: "Wireless modems enable mobile computer devices to communicate with other computer devices ...")) and a short range radio frequency antenna (Bass fig. 5: 515) for data communication; a memory for storing the communicated data (Bass fig. 4: memory); means for giving to the microcontroller an operation enable signal enabling the operation of the data communication device when the memory is processed by the electronic device, and a busy signal when the LPRF unit is occupied for data communication (not in Bass but would be obvious as explained below), wherein said communication device for wireless data communication (Bass fig. 3: 305, 307, fig. 2: 205, 207:

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the modem 305, 307, 205, 207 is the data communication device which will be attached to the computer) is arranged to mount into a general purpose expansion memory location (Bass fig. 3: locations 203B, 203A) of the electronic device (Bass fig. 3: 201), said communication device being arranged to operate as an ordinary expansion memory (Bass does not teach ordinary expansion memory but it would be obvious as explained below) from the view point of the electronic device (Bass fig. 3: 201 is the electronic device; Bass figs. 3, 4: attaching the wireless card with the memory into the computer is from the view point of the computer more memory attached to the computer through the wireless card; col. 5 lines 34-35: "The adapter card is wired such that it looks to the PCMCIA bus as a memory card.") and the electronic device communicates with the data communication device as an expansion memory (Bass fig. 3: 201 is the electronic device; Bass figs. 3, 4: attaching the wireless card with the memory into the computer is from the view point of the computer more memory attached to the computer through the wireless card; col. 5 lines 34-35: "The adapter card is wired such that it looks to the PCMCIA bus as a memory card.").

31. What Bass does not teach is that the PCMCIA slot is a general purpose interface. What Knighton teaches that the PCMCIA slot is a general purpose interface (Knighton 6032866: col. 6 lines 41-46: PCMCIA slot is a general purpose interface as it can have a PCMCIA card which can be such things as memory, camera, optical reader). Thus, it would have been obvious, to one of ordinary skill in the art, at time the invention was made, to arrive at the general purpose interface as recited by the instant claims, because the combined teaching of Bass with Knighton suggest general purpose interface as recited by the instant claims. Furthermore, one of ordinary skill in the art, would have been motivated to combine the teachings of Bass with Knighton

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because Bass suggests modem memory (Bass fig. 4) and two PCMCIA slots or locations with different functionalities (Bass col. 4 lines 12-16) (something broad) in general and Knighton suggests the beneficial use of having the PCMCIA slots be general purpose interface by being able to have things with additional functionalities such as to have more memory, or to have a camera, or to have an optical reader in the analogous art of PCMCIA cards.

32. What Bass does not teach is general purpose or ordinary expansion memory. Knighton with Bass teach general purpose or ordinary memory as memory can be used for different ordinary applications such as Knighton using memory for ordinary purposes of a microprocessor (Knighton fig. 8 130, 144) and Bass using memory at least for the ordinary purposes of the modem (Bass fig. 4). The word memory used with computers is an ordinary memory that is used to store general purpose data. A computer already has memory and thus the Bass computer has memory and any additional memory attached to the computer, for example attaching memory at the computer's PCMCIA slot, is an expansion of the computer memory. What Knighton also teaches is that the PCMCIA slot is an ordinary general purpose (Knighton 6032866: col. 6 lines 41-46: PCMCIA slot is ordinary general purpose as it can have a PCMCIA card which can be ordinary things like memory, camera, optical reader). Thus, it would have been obvious, to one of ordinary skill in the art, at time the invention was made, to arrive at the general purpose or ordinary expansion memory as indicated by the instant claims, because the combined teaching of Bass with Knighton suggest general purpose or ordinary expansion memory as indicated by the instant claims. Furthermore, one of ordinary skill in the art, would have been motivated to combine the teachings of Bass with Knighton because Bass suggests modem memory (Bass fig. 4) and two PCMCIA slots or locations with different functionalities such as where one has the

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baseband portion of the modem and the other has the battery for the modem (Bass col. 4 lines 12-16) (something broad) in general and Knighton suggests the beneficial use of the functionalities being ordinary general purpose (by another use for a memory such as memory for the modem in Bass fig. 4 and memory for a non-modem microprocessor as in Knighton's fig. 8: 144, col. 6 lines 41-46 and also by other uses such as camera and optical reader) expansion memory (by the Knighton or Bass memory being an expansion of the memory already in the computer of Bass and also if Bass's modem did not have memory but needed to use memory in order to operate, Bass would have to use the computer memory for data it currently stores in its modem memory and thus for also this reason, the modem memory is an expansion of the computer memory) in the analogous art of PCMCIA cards.

33. What Bass does not teach is general purpose interface of an expansion memory location. Bass in view of Knighton suggests interfacing general purpose devices (Bass fig. 4: modem with memory; Knighton fig. 8: 144, col. 6 lines 41-46: memory, camera and optical reader) of which at least some of which provide an expansion of memory as discussed above. The existence of expansion memory inherently means it has a location. Thus, it would have been obvious, to one of ordinary skill in the art, at time the invention was made, to modify the prior art teaching of Bass in view of Knighton with general purpose interface of an expansion memory location as recited by the instant claims, because Bass in view of Knighton suggests interfacing general purpose devices (Bass fig. 4: modem with memory; Knighton fig. 8: 144, col. 6 lines 41-46: memory, camera and optical reader) of which at least some of which provide an expansion of memory, as discussed above, in the analogous art of memory.

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~~34~~ What Bass does not teach is means for giving to the microcontroller an operation enable signal enabling the operation of the data communication device when the memory is processed by the electronic device, and a busy signal when the LPRF unit is occupied for data communication. What Okaue teaches is means for giving to the microcontroller an operation enable signal (Okaue fig. 5: signal from S2 that there is no write protection) enabling the operation of the data communication device (Okaue fig. 5: after S4, host can issue command set in S5) when the memory is processed by the electronic device (Okaue fig. 5: issue write page buffer instruction S4), and a busy signal when the LPRF unit is occupied for data communication (Okaue fig. 5: S12 busy state in memory card when register is being transmitted). Thus, it would have been obvious, to one of ordinary skill in the art, at time the invention was made, to arrive at the giving to the microcontroller an operation enable signal enabling the operation of the data communication device when the memory is processed by the electronic device, and a busy signal when the LPRF unit is occupied for data communication as recited by the instant claims, because the combined teaching of Bass with Okaue suggest giving to the microcontroller an operation enable signal enabling the operation of the data communication device when the memory is processed by the electronic device, and a busy signal when the LPRF unit is occupied for data communication as recited by the instant claims. Furthermore, one of ordinary skill in the art, would have been motivated to combine the teachings of Bass with Okaue because Bass suggests transmission (something broad) in general and Okaue suggests the beneficial use of indicating with busy signals to prevent memory change during transmission and indicating with ready signal when it is okay to change so as to prevent erroneous erasure and having write protection with efficient processing in the analogous art of memory processing.

35. As per claim 13: An electronic device comprising: a first memory (not in Bass but would be obvious as explained below); a general purpose expansion mount (Bass fig. 3: 203A, 203B in computer 201 which mounts 305, 307) (general purpose is not taught in Bass but it would be obvious as explained below) for a second ordinary expansion memory (Bass fig. 4: memory) (Bass does not teach that the memory is an ordinary expansion memory but it would be obvious as explained below); and circuitry that operates during a LPRF data transmission (Bass col. 1 lines 27, 44: RF; lines 49, 56-59: 600mW, 1W up to 3W is low power) to prevent another process from changing the first and second memories (not in Bass but would be obvious as explained below).

36. What Bass does not teach is that the PCMCIA slot is general purpose. What Knighton teaches that the PCMCIA slot is general purpose (Knighton 6032866: col. 6 lines 41-46: PCMCIA slot is general purpose as it can have a PCMCIA card which can be such things as memory, camera, optical reader). Thus, it would have been obvious, to one of ordinary skill in the art, at time the invention was made, to arrive at the general purpose as recited by the instant claims, because the combined teaching of Bass with Knighton suggest general purpose as recited by the instant claims. Furthermore, one of ordinary skill in the art, would have been motivated to combine the teachings of Bass with Knighton because Bass suggests two PCMCIA slots with different functionalities such as where one has the baseband portion of the modem and the other has the battery for the modem (Bass col. 4 lines 12-16) (something broad) in general and Knighton suggests the beneficial use of having the PCMCIA slots be general purpose such as to

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have more memory, or to have a camera which would have memory, or to have an optical reader which would have memory in the analogous art of PCMCIA cards.

37. What Bass in view of Knighton does not teach is to prevent another process from changing the first and second memories. What Okaue teaches is to prevent another process (Okaue fig. 5: S1) from changing the first (Okaue fig. 5: memory in memory card) and second memories. (Okaue fig. 5: S11 erase prevention when register content is transmitted). Okaue does not teach preventing a change in both memories but since it can do it in one memory, it could do it in both memories as Okaue in fig. 5 is preventing register erasure in the memory card in step S11 and the host is also executing write inhibit processing in S3. Thus, it would have been obvious, to one of ordinary skill in the art, at time the invention was made, to arrive at to prevent another process from changing the first and second memories as recited by the instant claims, because the combined teaching of Bass in view of Knighton with Okaue suggest to prevent another process from changing the first and second memories as indicated by the instant claims. Furthermore, one of ordinary skill in the art, would have been motivated to combine the teachings of Bass in view of Knighton with Okaue because Bass suggests transmission (something broad) in general and Okaue suggests the beneficial use of preventing memory change during transmission such as preventing erroneous erasure and having write protection in the analogous art of memory processing.

38. What Bass does not teach is ordinary expansion memory. Knighton with Bass teach ordinary memory as memory can be used for different ordinary applications such as Knighton using memory for ordinary purposes of a microprocessor (Knighton fig. 8 130, 144) and Bass using memory at least for the ordinary purposes of the modem (Bass fig. 4). The word memory

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used with computers is an ordinary memory that is used to store general purpose data. A computer already has memory and thus the Bass computer has memory and any additional memory attached to the computer, for example attaching memory at the computer's PCMCIA slot, is an expansion of the computer memory. Thus, it would have been obvious, to one of ordinary skill in the art, at time the invention was made, to arrive at the ordinary expansion memory as indicated by the instant claims, because the combined teaching of Bass with Knighton suggest ordinary expansion memory as indicated by the instant claims. Furthermore, one of ordinary skill in the art, would have been motivated to combine the teachings of Bass with Knighton because Bass suggests modem memory (Bass fig. 4) and two PCMCIA slots or locations with different functionalities such as where one has the baseband portion of the modem and the other has the battery for the modem (Bass col. 4 lines 12-16) (something broad) in general and Knighton suggests the beneficial use of the functionalities being ordinary (by another use for a memory such as memory for the modem in Bass fig. 4 and memory for a non-modem microprocessor as in Knighton's fig. 8: 144, col. 6 lines 41-46 and also by other uses such as camera and optical reader; and also because specifics of the memory is not provided and thus it is ordinary) expansion memory (by the Knighton or Bass memory being an expansion of the memory already in the computer of Bass and also if Bass's modem did not have memory but needed to use memory in order to operate, Bass would have to use the computer memory for data it currently stores in its modem memory and thus for also this reason, the modem memory is an expansion of the computer memory) in the analogous art of PCMCIA cards.

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39. As per claim 14: The electronic device of claim 13 comprising a communication device mounted into the general purpose expansion mount, the data communication device including: a controller connectable (Bass fig. 2, 3: 209 is connectable; 209 is the rf module that controls with the baseband processor receives) to a general purpose interface of the expansion mount (general purpose interface of an expansion memory mount is not in Bass but would be obvious as explained below), for controlling the operation of the data communication device (Bass: the data received by the baseband processor 205, 305 has to first go through the radio module 209 and hence the radio module controls what the baseband processor receives); a short-range (inherent for Bass to be short range since Bass teaches low transmission power (Bass col. 1 lines 49, 56-59: transmit power 600mW, 1W up to 3W; since transmit power is small, it will be short range) and thus suggests that the range will be short (Bass col. 1 lines 44-46: "The ability of the radio to transmit at certain ranges is limited by the transmit power it can radiate via the antenna.))) radio frequency (Bass col. 1 lines 27, 44: RF) wireless data communication unit (wireless data communication unit is inherent in Bass since when there is one device with communicates wirelessly, there has to be a second device which communicates wirelessly with the first device otherwise the first device would not be able to communicate wirelessly as it would not have anyone to communicate with. Bass does teach the first device which is applicant's claimed data communication device (Bass fig. 3: the modem 305,307 is the data communication device which will be attached to the computer) and Bass also teaches wireless communications (Bass col. 1 lines 13-15: "Wireless modems enable mobile computer devices to communicate with other computer devices ...")) and a short range radio frequency antenna (Bass fig. 5: 515) for data communication; and at least a portion of the second memory for storing a communicated data

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(Bass fig. 4: portion of memory can be used now so that remainder can be used later), wherein the data communication device is arranged to operate as the second ordinary expansion memory (Bass fig. 4: memory in the PCMCIA modem card) from the view point of the electronic device (Bass fig. 3: 201 is the electronic device; Bass figs. 3, 4: attaching the wireless card with the memory into the computer is from the view point of the computer more memory attached to the computer through the wireless card; col. 5 lines 34-35: "The adapter card is wired such that it looks to the PCMCIA bus as a memory card.") and the electronic device communicates with the data communication device as the second ordinary expansion memory (Bass fig. 3: 201 is the electronic device; Bass figs. 3, 4: attaching the wireless card with the memory into the computer is from the view point of the computer more memory attached to the computer through the wireless card; col. 5 lines 34-35: "The adapter card is wired such that it looks to the PCMCIA bus as a memory card.").

40. What Bass does not teach is general purpose or ordinary expansion memory. Knighton with Bass teach general purpose or ordinary memory as memory can be used for different ordinary applications such as Knighton using memory for ordinary purposes of a microprocessor (Knighton fig. 8 130, 144) and Bass using memory at least for the ordinary purposes of the modem (Bass fig. 4). The word memory used with computers is an ordinary memory that is used to store general purpose data. A computer already has memory and thus the Bass computer has memory and any additional memory attached to the computer, for example attaching memory at the computer's PCMCIA slot, is an expansion of the computer memory. What Knighton also teaches is that the PCMCIA slot is an ordinary general purpose (Knighton 6032866: col. 6 lines 41-46: PCMCIA slot is ordinary general purpose as it can have a PCMCIA card which can be

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ordinary things like memory, camera, optical reader). Thus, it would have been obvious, to one of ordinary skill in the art, at time the invention was made, to arrive at the general purpose or ordinary expansion memory as indicated by the instant claims, because the combined teaching of Bass with Knighton suggest general purpose or ordinary expansion memory as indicated by the instant claims. Furthermore, one of ordinary skill in the art, would have been motivated to combine the teachings of Bass with Knighton because Bass suggests modem memory (Bass fig. 4) and two PCMCIA slots or locations with different functionalities (Bass col. 4 lines 12-16) (something broad) in general and Knighton suggests the beneficial use of the functionalities being ordinary general purpose (by using the memory for a different application such as memory for the modem in Bass fig. 4 and memory for a non-modem microprocessor as in Knighton's fig. 8: 144, col. 6 lines 41-46 and also by other uses such as camera and optical reader) expansion memory (by the Knighton or Bass memory being an expansion of the memory already in the computer of Bass and also if Bass's modem did not have memory but needed to use memory in order to operate, Bass would have to use the computer memory for data it currently stores in its modem memory and thus for also this reason, the modem memory is an expansion of the computer memory) in the analogous art of PCMCIA cards.

~~41.~~ What Bass does not teach is general purpose interface of an expansion memory location. Bass in view of Knighton suggests interfacing general purpose devices (Bass fig. 4: modem with memory; Knighton fig. 8: 144, col. 6 lines 41-46: memory, camera and optical reader) of which at least some of which provide an expansion of memory as discussed above. The existence of expansion memory inherently means it has a location. Thus, it would have been obvious, to one of ordinary skill in the art, at time the invention was made, to modify the prior art teaching of

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Bass in view of Knighton with general purpose interface of an expansion memory location as recited by the instant claims, because Bass in view of Knighton suggests interfacing general purpose devices (Bass fig. 4: modem with memory; Knighton fig. 8: 144, col. 6 lines 41-46: memory, camera and optical reader) of which at least some of which provide an expansion of memory, as discussed above, in the analogous art of memory.

42. As per claim 15: An electronic device according to claim 13, wherein the circuitry comprises a busy-signal means (Okaue fig. 5: busy state, busy/read signal).

43. As per claim 16: a controller connectable (Bass fig. 2, 3: 209 is connectable; 209 is the rf module that controls with the baseband processor receives) to a general purpose interface of the general purpose expansion memory location (general purpose interface of an expansion memory location is not in Bass but would be obvious as explained below), for controlling the operation of the data communication device (Bass: the data received by the baseband processor 205, 305 has to first go through the radio module 209 and hence the radio module controls what the baseband processor receives); a short-range (inherent for Bass to be short range since Bass teaches low transmission power (Bass col. 1 lines 49, 56-59: transmit power 600mW, 1W up to 3W; since transmit power is small, it will be short range) and thus suggests that the range will be short (Bass col. 1 lines 44-46: "The ability of the radio to transmit at certain ranges is limited by the transmit power it can radiate via the antenna.)) radio frequency (Bass col. 1 lines 27, 44: RF) wireless data communication unit (wireless data communication unit is inherent in Bass since when there is one device with communicates wirelessly, there has to be a second device which

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communicates wirelessly with the first device otherwise the first device would not be able to communicate wirelessly as it would not have anyone to communicate with. Bass does teach the first device which is applicant's claimed data communication device (Bass fig. 3: the modem 305,307 is the data communication device which will be attached to the computer) and Bass also teaches wireless communications (Bass col. 1 lines 13-15: "Wireless modems enable mobile computer devices to communicate with other computer devices ...")) and a short range radio frequency antenna (Bass fig. 5: 515) for data communication; a memory for storing a communicated data (Bass fig. 4: memory); and circuitry that operates during a LPRF data transmission (Bass col. 1 lines 27, 44: RF; lines 49, 56-59: 600mW, 1W up to 3W is low power) to prevent another process from changing the first and second memories (not in Bass but would be obvious as explained below), wherein the data communication device is arranged to operate as an ordinary expansion memory (Bass does not teach ordinary expansion memory but it would be obvious as explained below) from the view point of the electronic device (Bass fig. 3: 201 is the electronic device; Bass figs. 3, 4: attaching the wireless card with the memory into the computer is from the view point of the computer more memory attached to the computer through the wireless card; col. 5 lines 34-35: "The adapter card is wired such that it looks to the PCMCIA bus as a memory card.") and the electronic device communicates with the data communication device as an expansion memory (Bass fig. 3: 201 is the electronic device; Bass figs. 3, 4: attaching the wireless card with the memory into the computer is from the view point of the computer more memory attached to the computer through the wireless card; col. 5 lines 34-35: "The adapter card is wired such that it looks to the PCMCIA bus as a memory card.").

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44. What Bass does not teach is that the PCMCIA slot is a general purpose interface. What Knighton teaches that the PCMCIA slot is a general purpose interface (Knighton 6032866: col. 6 lines 41-46: PCMCIA slot is a general purpose interface as it can have a PCMCIA card which can be such things as memory, camera, optical reader). Thus, it would have been obvious, to one of ordinary skill in the art, at time the invention was made, to arrive at the general purpose interface as recited by the instant claims, because the combined teaching of Bass with Knighton suggest general purpose interface as recited by the instant claims. Furthermore, one of ordinary skill in the art, would have been motivated to combine the teachings of Bass with Knighton because Bass suggests two PCMCIA slots with different functionalities such as where one has the baseband portion of the modem and the other has the battery for the modem (Bass col. 4 lines 12-16) (something broad) in general and Knighton suggests the beneficial use of having the PCMCIA slots be general purpose interface by being able to have things with additional functionalities such as to have more memory, or to have a camera, or to have an optical reader in the analogous art of PCMCIA cards.

45. What Bass does not teach is general purpose or ordinary expansion memory. Knighton with Bass teach general purpose or ordinary memory as memory can be used for different ordinary applications such as Knighton using memory for ordinary purposes of a microprocessor (Knighton fig. 8 130, 144) and Bass using memory at least for the ordinary purposes of the modem (Bass fig. 4). The word memory used with computers is an ordinary memory that is used to store general purpose data. A computer already has memory and thus the Bass computer has memory and any additional memory attached to the computer, for example attaching memory at the computer's PCMCIA slot, is an expansion of the computer memory. What Knighton also

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teaches is that the PCMCIA slot is an ordinary general purpose (Knighton 6032866: col. 6 lines 41-46: PCMCIA slot is ordinary general purpose as it can have a PCMCIA card which can be ordinary things like memory, camera, optical reader). Thus, it would have been obvious, to one of ordinary skill in the art, at time the invention was made, to arrive at the general purpose or ordinary expansion memory as indicated by the instant claims, because the combined teaching of Bass with Knighton suggest general purpose or ordinary expansion memory as indicated by the instant claims. Furthermore, one of ordinary skill in the art, would have been motivated to combine the teachings of Bass with Knighton because Bass suggests modem memory (Bass fig. 4) and two PCMCIA slots or locations with different functionalities such as where one has the baseband portion of the modem and the other has the battery for the modem (Bass col. 4 lines 12-16) (something broad) in general and Knighton suggests the beneficial use of the functionalities being ordinary general purpose (by another use for a memory such as memory for the modem in Bass fig. 4 and memory for a non-modem microprocessor as in Knighton's fig. 8: 144, col. 6 lines 41-46 and also by other uses such as camera and optical reader) expansion memory (by the Knighton or Bass memory being an expansion of the memory already in the computer of Bass and also if Bass's modem did not have memory but needed to use memory in order to operate, Bass would have to use the computer memory for data it currently stores in its modem memory and thus for also this reason, the modem memory is an expansion of the computer memory) in the analogous art of PCMCIA cards.

46. What Bass does not teach is general purpose interface of an expansion memory location. Bass in view of Knighton suggests interfacing general purpose devices (Bass fig. 4: modem with memory; Knighton fig. 8: 144, col. 6 lines 41-46: memory, camera and optical reader) of which

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at least some of which provide an expansion of memory as discussed above. The existence of expansion memory inherently means it has a location. Thus, it would have been obvious, to one of ordinary skill in the art, at time the invention was made, to modify the prior art teaching of Bass in view of Knighton with general purpose interface of an expansion memory location as recited by the instant claims, because Bass in view of Knighton suggests interfacing general purpose devices (Bass fig. 4: modem with memory; Knighton fig. 8: 144, col. 6 lines 41-46: memory, camera and optical reader) of which at least some of which provide an expansion of memory, as discussed above, in the analogous art of memory.

~~47.~~ What Bass in view of Knighton does not teach is to prevent another process from changing the first and second memories. What Okaue teaches is to prevent another process (Okaue fig. 5: S1) from changing the first (Okaue fig. 5: memory in memory card) and second memories. (Okaue fig. 5: S11 erase prevention when register content is transmitted). Okaue does not teach preventing a change in both memories but since it can do it in one memory, it could do it in both memories as Okaue in fig. 5 is preventing register erasure in the memory card in step S11 and the host is also executing write inhibit processing in S3. Thus, it would have been obvious, to one of ordinary skill in the art, at time the invention was made, to arrive at to prevent another process from changing the first and second memories as recited by the instant claims, because the combined teaching of Bass in view of Knighton with Okaue suggest to prevent another process from changing the first and second memories as indicated by the instant claims. Furthermore, one of ordinary skill in the art, would have been motivated to combine the teachings of Bass in view of Knighton with Okaue because Bass suggests transmission (something broad) in general and Okaue suggests the beneficial use of preventing memory

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change during transmission such as preventing erroneous erasure and having write protection in the analogous art of memory processing.

48. As per claim 17: The data the circuitry communications device of claim 16, wherein comprises a busy-signal means (Okaue fig. 5: busy state, busy/read signal).

Allowable Subject Matter

49. Claim 9 is allowed. See a prior action for details.


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Conclusion

50. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pankaj Kumar whose telephone number is (571) 272-3011. The examiner can normally be reached on Mon, Tues, Thurs and Fri after 8AM to after 6:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Pankaj Kumar
Patent Examiner
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PK